







5-3 Environment (1) Global Warming Prevention: CO2 Emissions Reduction

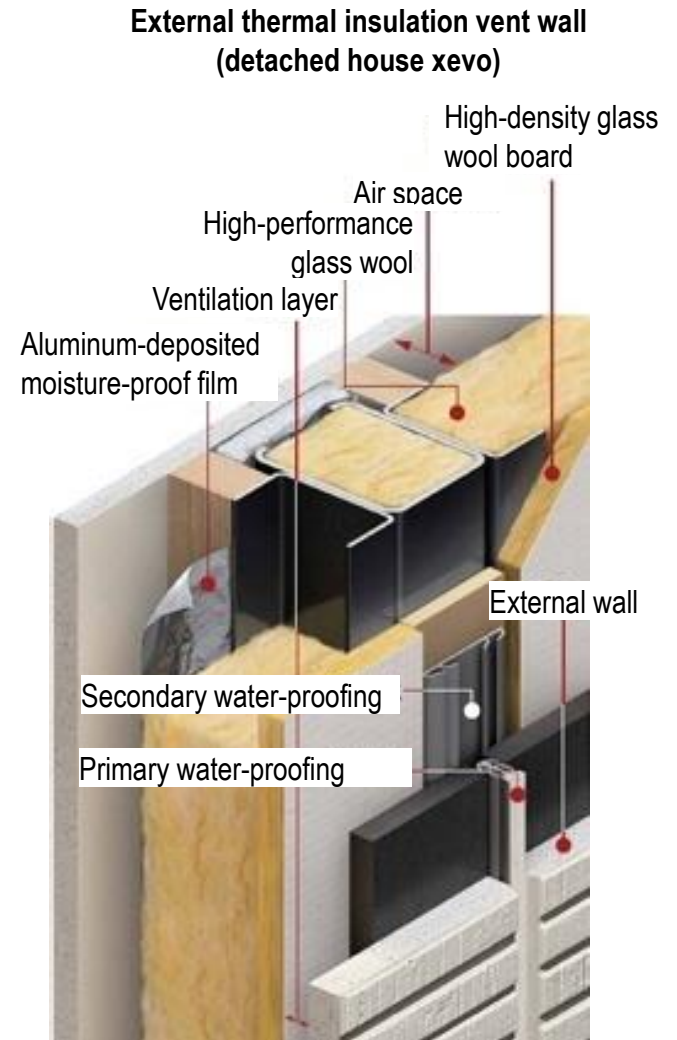
Energy-saving specifications to reduce energy use during living

Because about 70% of lifecycle CO2 emissions is discharged during living, it is inevitable as a global warming prevention measure to reduce energy use during living. Daiwa House is grappling with the global warming prevention from three aspects of energy saving, energy production and energy storage.

- Improvement in heat insulation efficiency
- Standardization of equipment and devices with high energy-saving performance
- Promotion of installation of solar power generation systems
- Battery for home use



xevoE (2007)



Airtightness and Heat-insulation Performance of Heim (3)

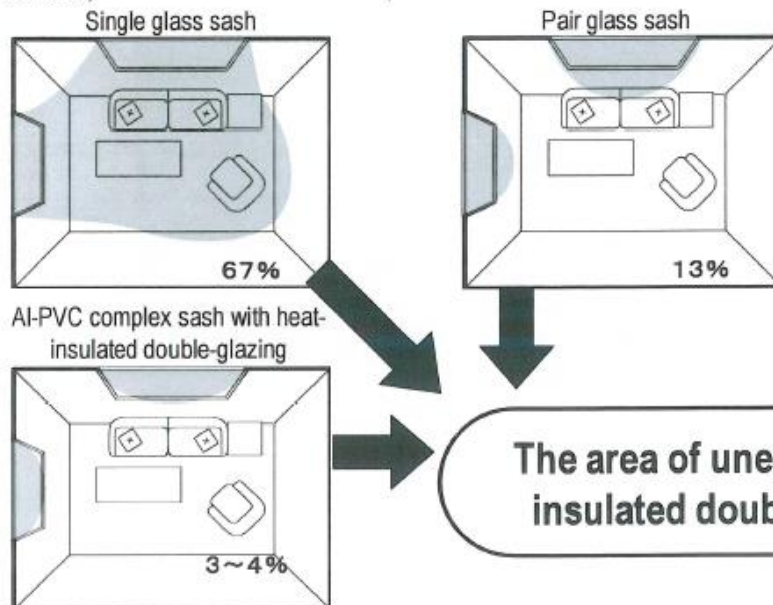
■ Opening

“Al-PVC complex sash with heat-insulated double-glazing” excelling in heat insulation performance

- Aluminum-resin complex sash with low thermal conductivity is adopted for indoor window frames.
- High-cut pair glass is used because of its excellent reflectivity of solar radiation and UV rays.
- An uneasy zone which makes people feel chilly is substantially reduced.

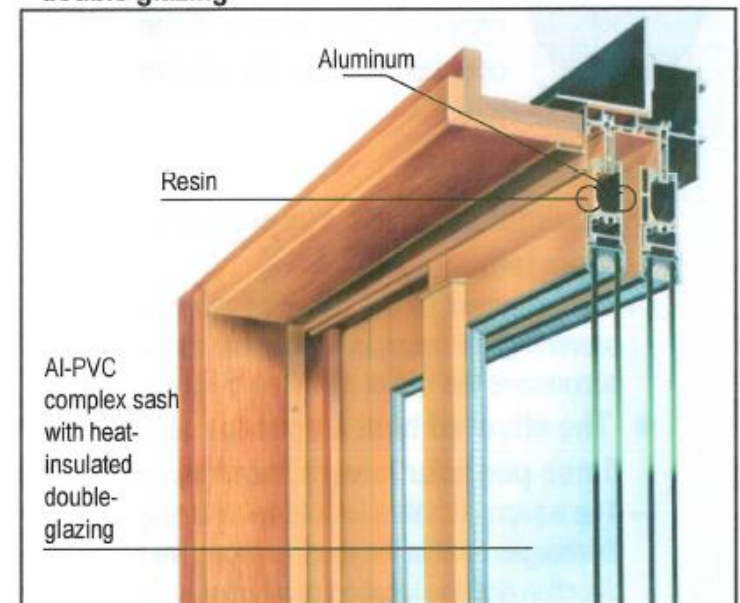
● Comparison of uneasy zones in terms of cold radiation

*Calculation conditions: A zone of average radiation temperature below 17°C or lower at the time of outside air temperature of -8°C/room temperature of 20°C. (The percentage figure shows the rate of uneasy zone to floor area.)



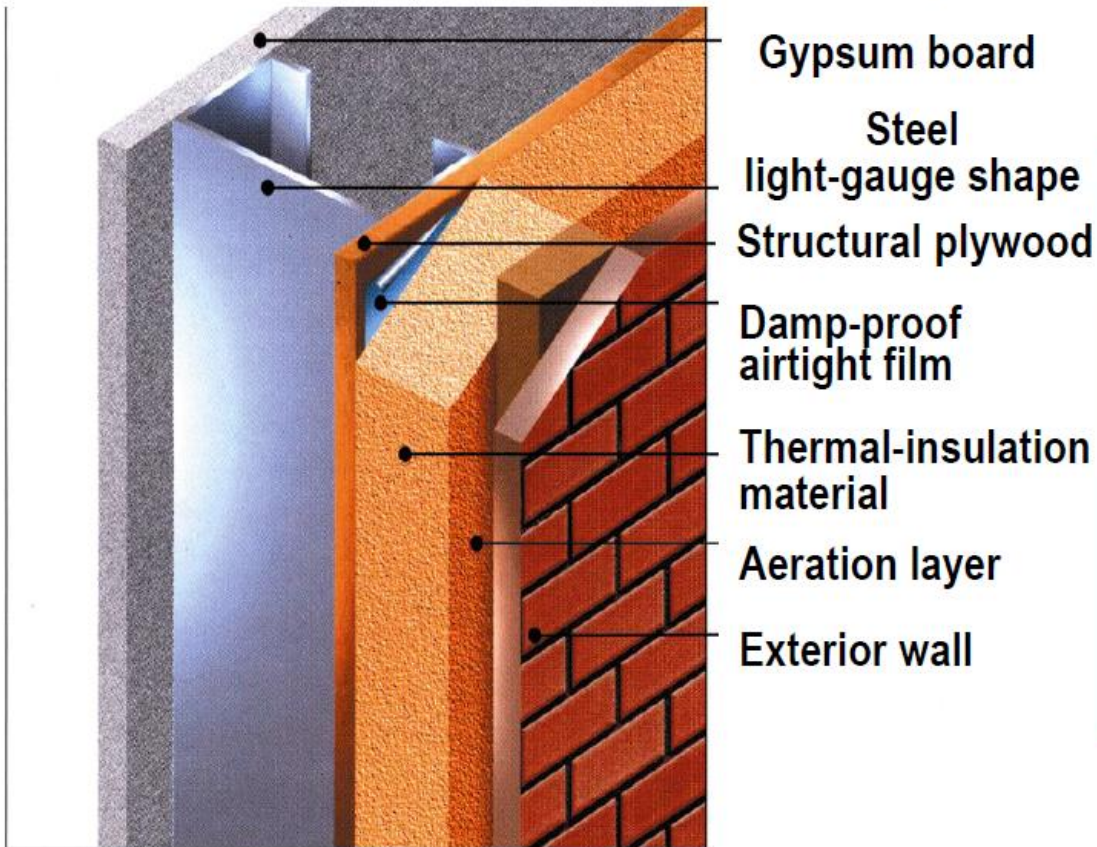
The area of uneasy zone for Al-PVC complex sash with heat-insulated double-glazing is 1/15 that for single glass sash!

● Cross section of Al-PVC complex sash with heat-insulated double-glazing

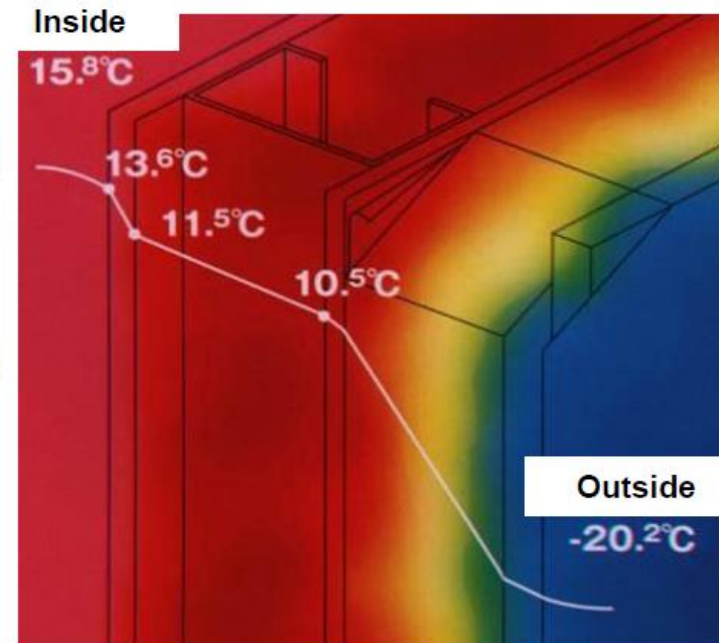


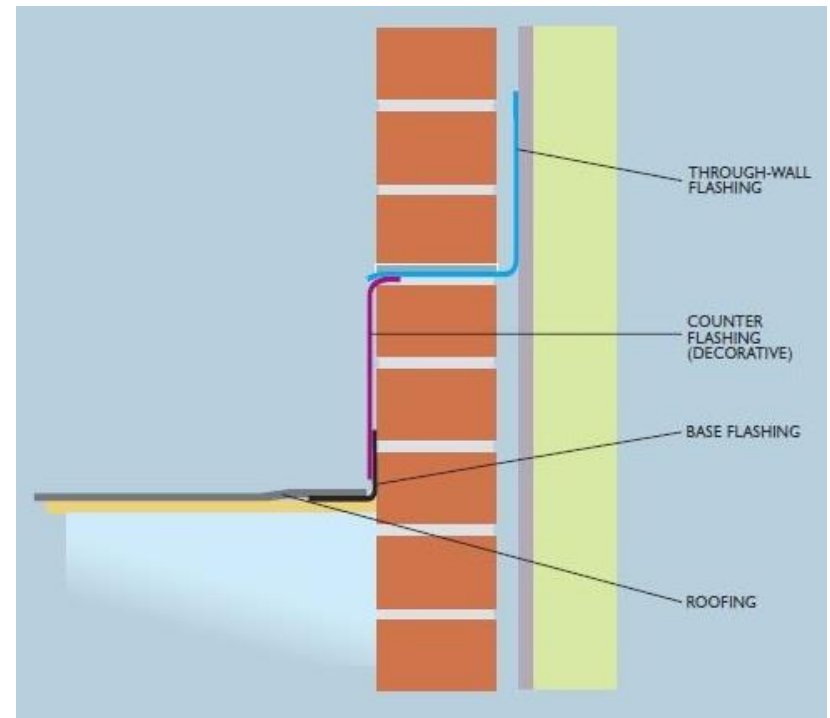
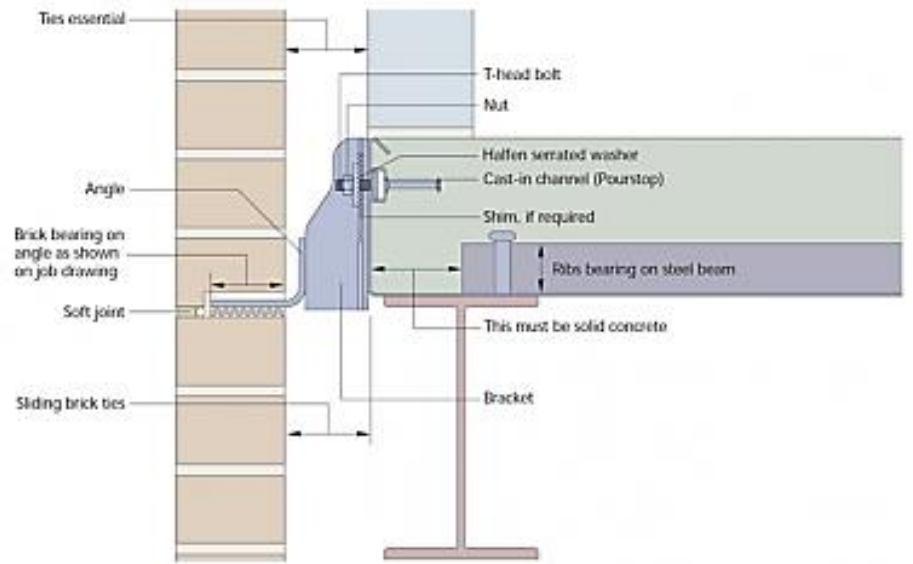
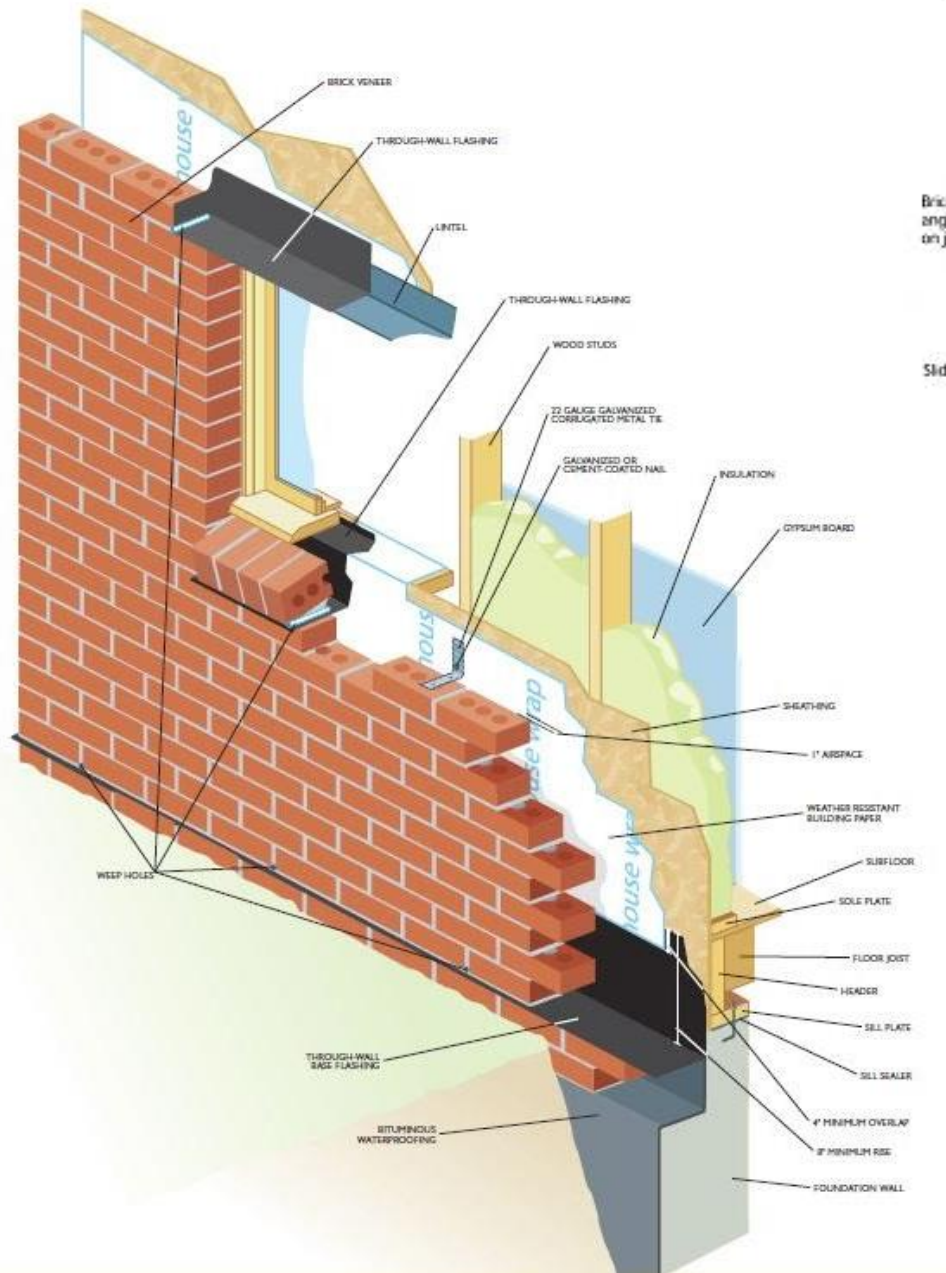
Prevention of Dew Condensation by Means of External Thermal Insulation

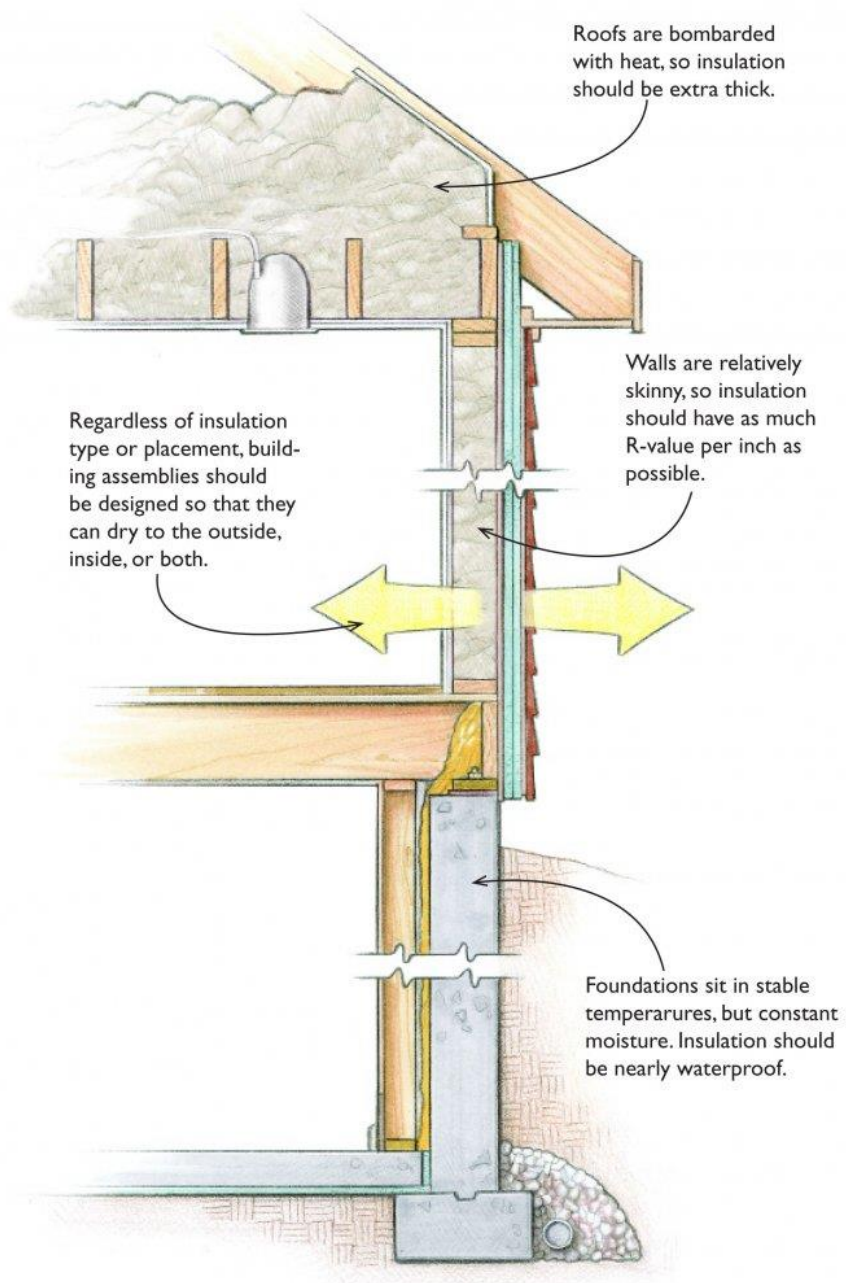
■ External Thermal Insulation and Aeration System



■ A Sample of Actual Measurement in the Cold District



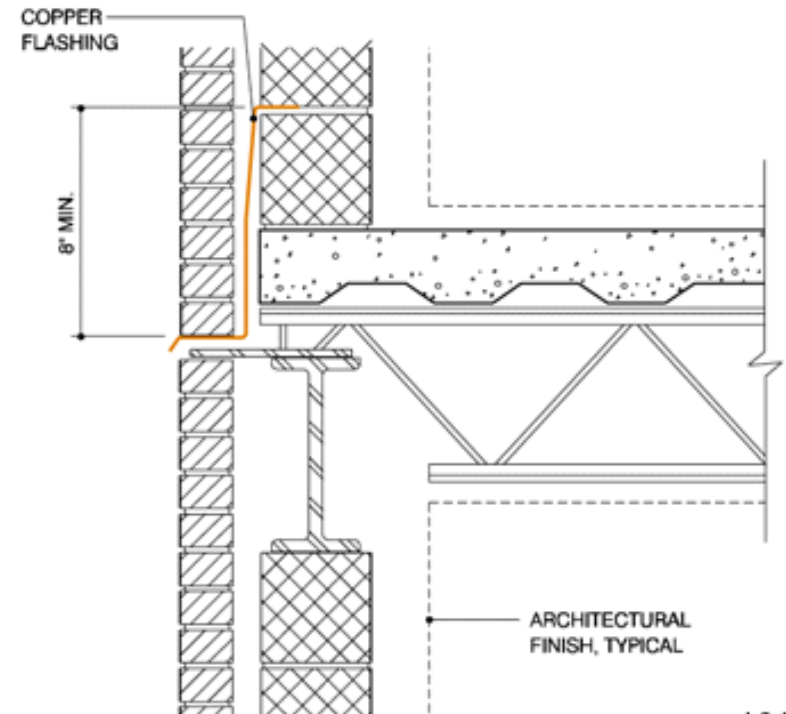
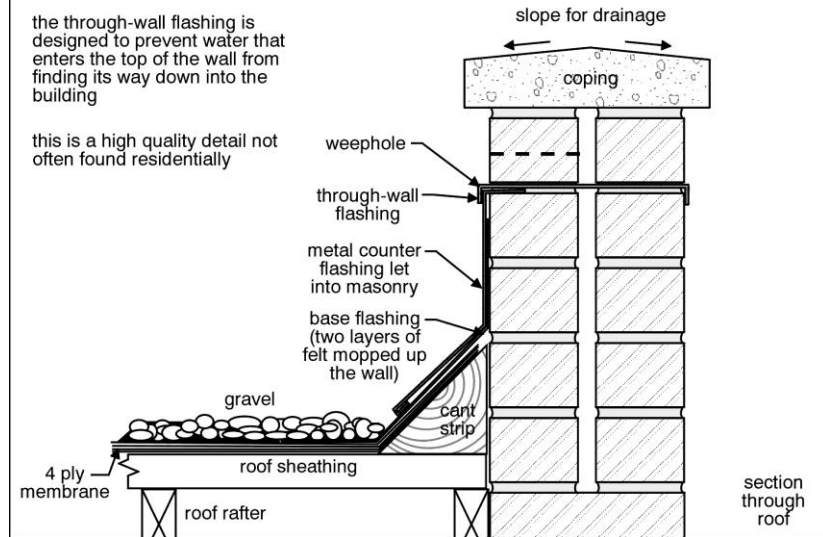




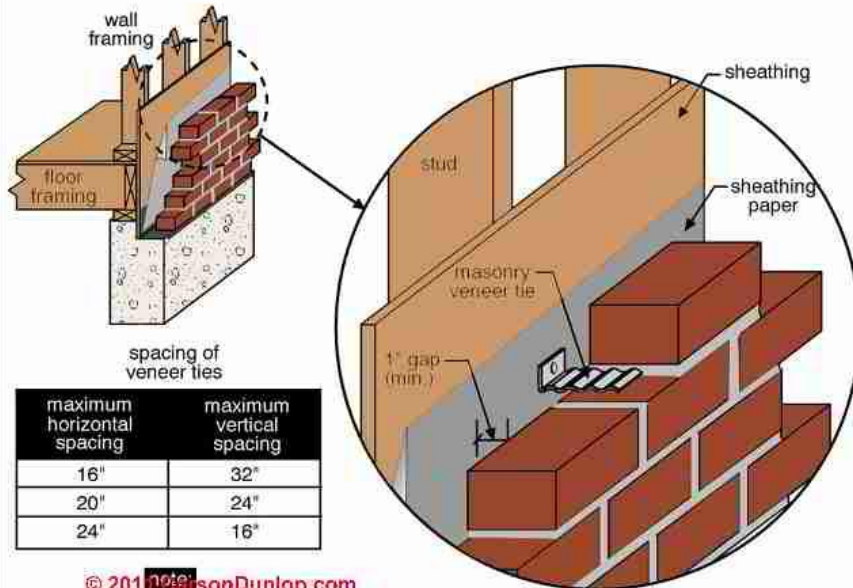
Through-wall flashings

the through-wall flashing is designed to prevent water that enters the top of the wall from finding its way down into the building

this is a high quality detail not often found residentially



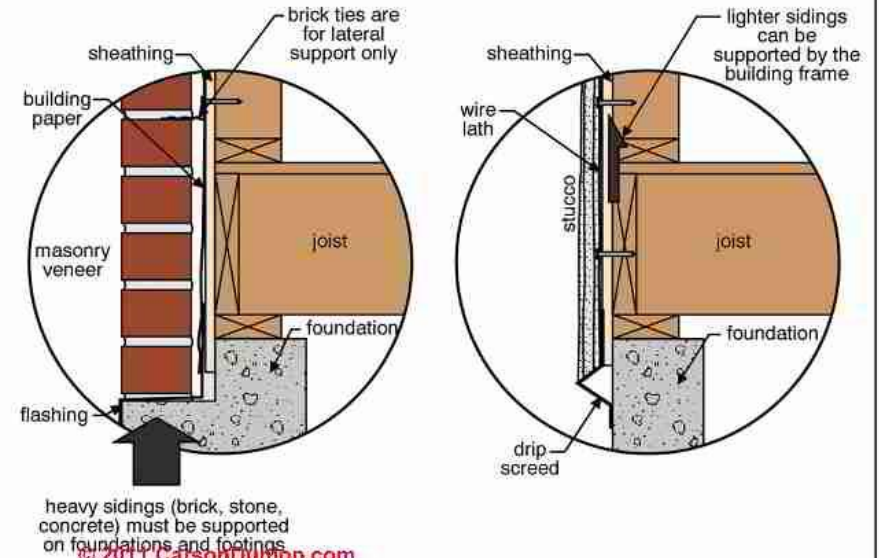
Brick veneer wall - masonry tie detail



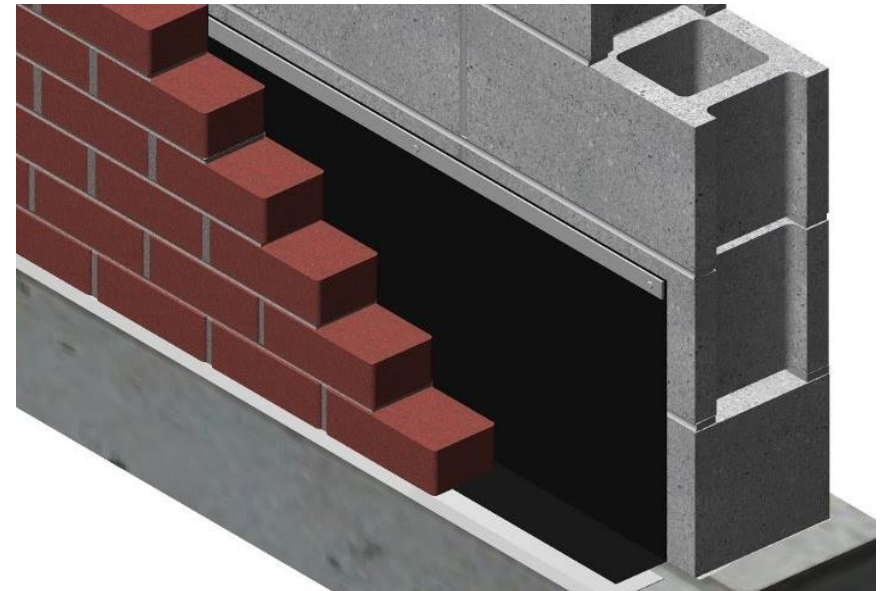
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note:
veneer ties are
nailed into studs

Support for siding

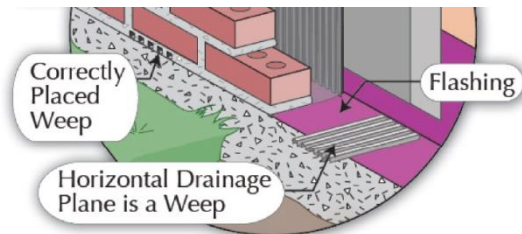


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Improper through-wall detailing and installation. No weep holes, and the flashing did not extent enough on either direction. Also, the caulking is deficient. As a result, the steel angle lintel corroded and there was a collapse as well.

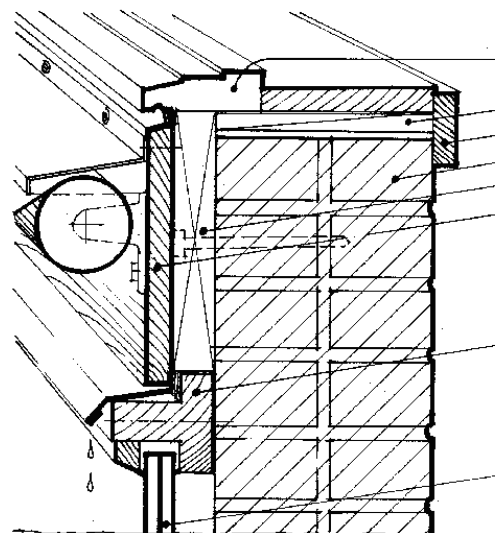
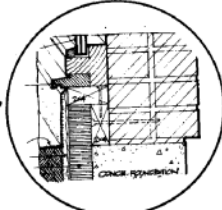
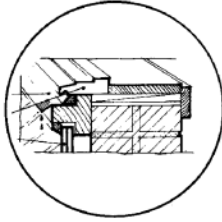
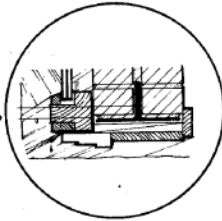
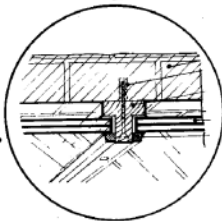
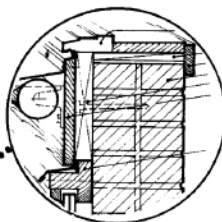
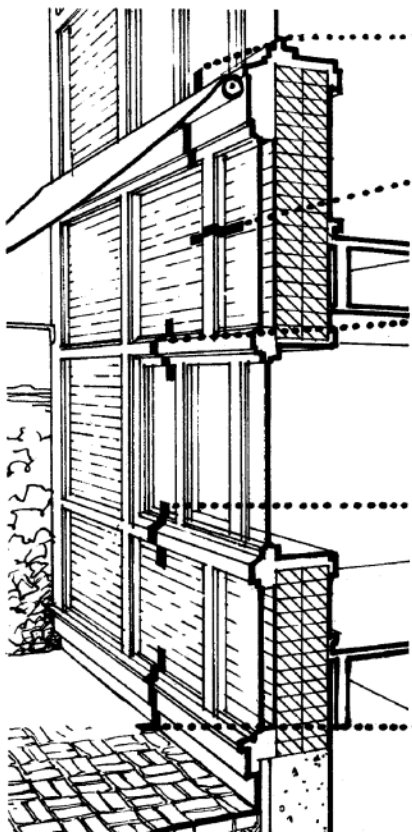


Improper design and installation



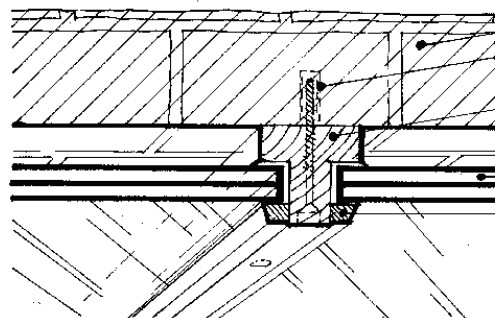
This is an example of properly shingled through-wall flashing system. As you can see here, the black flashing is on top of the brick ledge. It goes up onto the framing, and is behind the weather-resistive barrier(WRB) (white sheet folded out of the way near top of photo). When the WRB is folded down, it will protect the sheathing from moisture damage due to capillary action.





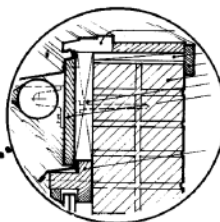
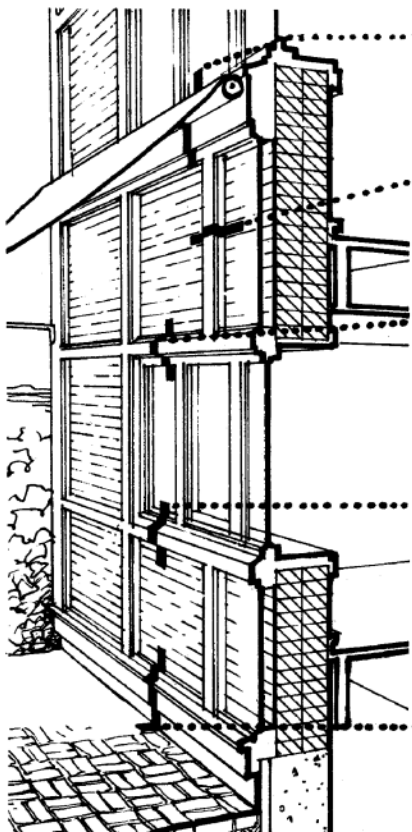
HEAD DETAIL - 1

- SILL OF STD WOOD WINDOW.
- CAULK SLOT BELOW.
- BLOCKING & SHIMS.
- 1x3.
- 8" BRICK VAIL.
- 2x10.
- 1x10 TRIM.
- AWNING & COVER.
- FLASH BEHIND 1x10 AND OVER WINDOW HEAD OF SOLAR GLASS.
- 4x4 RABBETED TO TEE SHAPE.
- EPXY. PAINT ALL WOOD SURFACES IN OR EXPOSED TO SOLAR AIR SPACE.
- TRIPLE GLAZING.
- BACK-PRIME ALL WOOD AS PER OTHER DETAILS



- BRICK WALL
- 5" GALV. SCREWS INTO 2" LEAD SHIELDS
- 4x4 FRAME CUT TO (NOT APPROPRIATE TEE SHAPE. PINE!)
- TRIPLE GLAZING...+ GLAZING TAPE, SETTING BLOCK.
- WOOD STOPS, NAILED.
- WOOD PLUGS COVER RECESSED SCREWS.

MULLION - 2

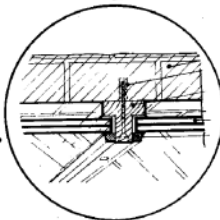
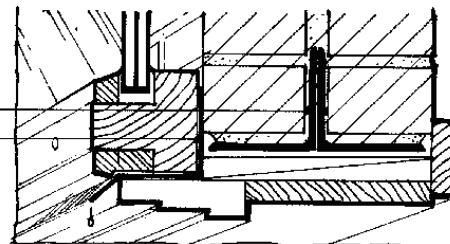


WINDOW HEAD - 3

BACK-TO-BACK STEEL ANGLES MUST
BE SIZED TO CARRY TOTAL
MASONRY WALL LOAD

FLASHING EXTENDS UP BEHIND TEE.

GET GOOD
ADVICE ON FASTENING
WOOD TO STEEL AND BRICK.

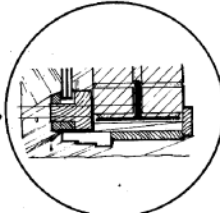
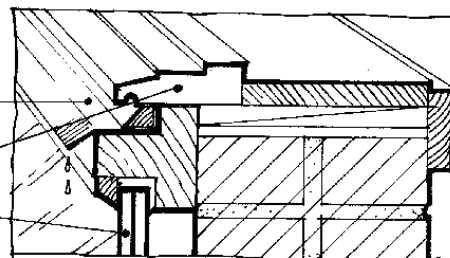


WINDOW SILL - 4

METAL FLASHING
IN  SHAPE
PROTECTS 4x4 TEE.

STANDARD WDW. SILL IS SIMILAR TO
DETAIL ON OPPOSITE PAGE.

TRIPLE GLAZING.



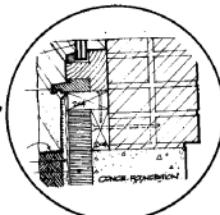
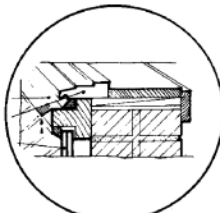
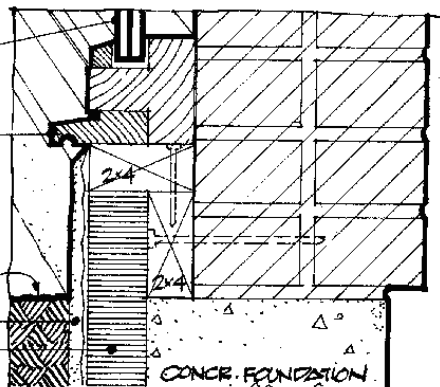
SILL AT GRADE - 5

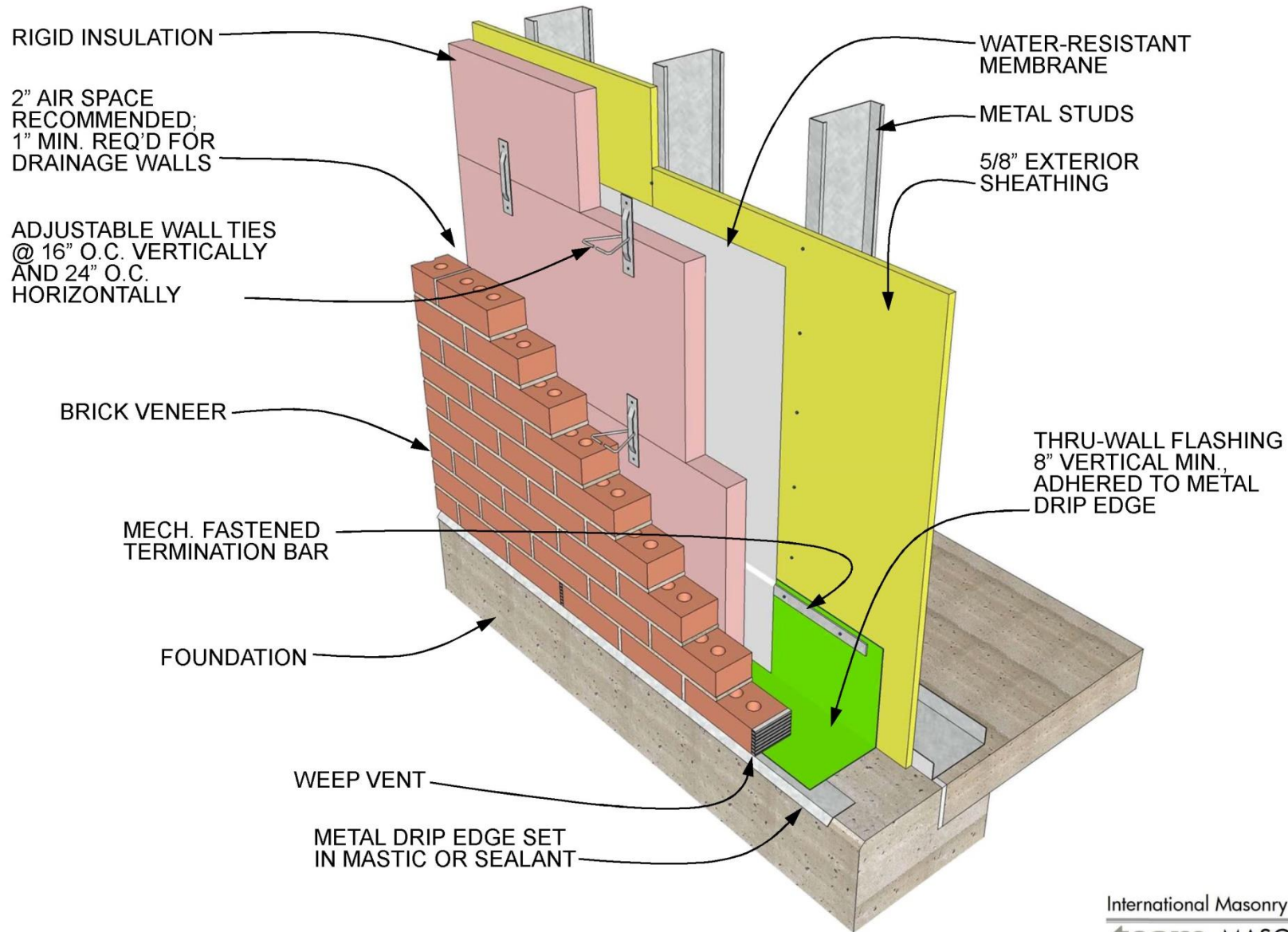
TRIPLE GLAZING IN 4x4 TEE AS BEFORE.

SILL PIECE WITH DRAIN

EXTERIOR GRADE

1/2" CEMENT PLASTER ON
CHICKEN WIRE PROTECTS 2"
POLYSTYRENE BOARD INSULATION.





BASE OF WALL DETAIL FLEX. FLASHING, DRIP EDGE, TERM. BAR

DETAIL 01.040.0301

REV. 11/06/07

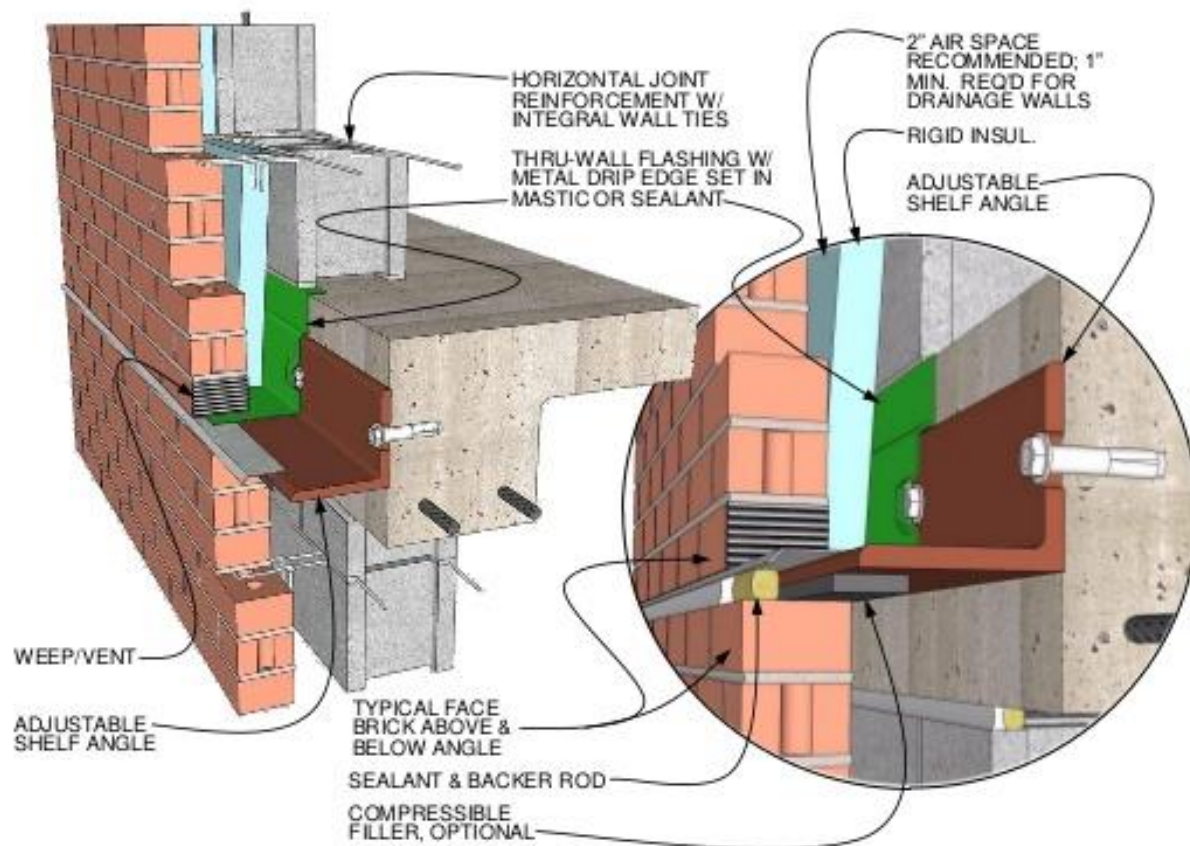
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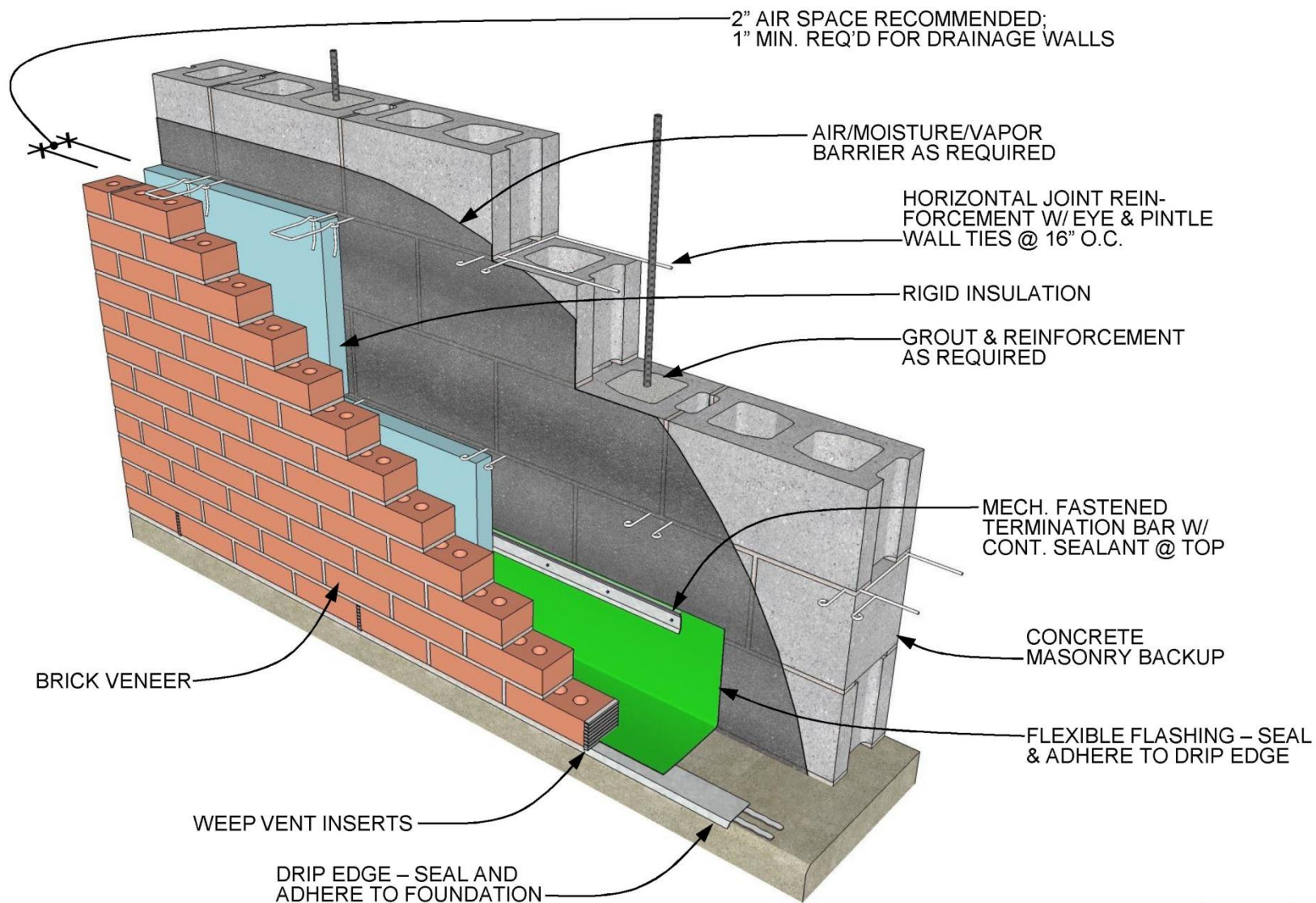
SHELF ANGLE DETAIL TYP. FACE BRICK
 DETAIL 01.030.0701 REV. 06/19/08

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BASE OF WALL DETAIL FLEX. FLASHING, DRIP EDGE, TERM. BAR

DETAIL 01.030.0301

REV. 09/25/09

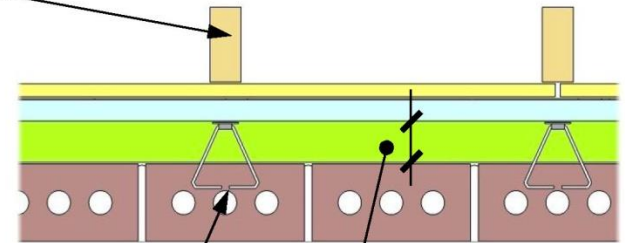
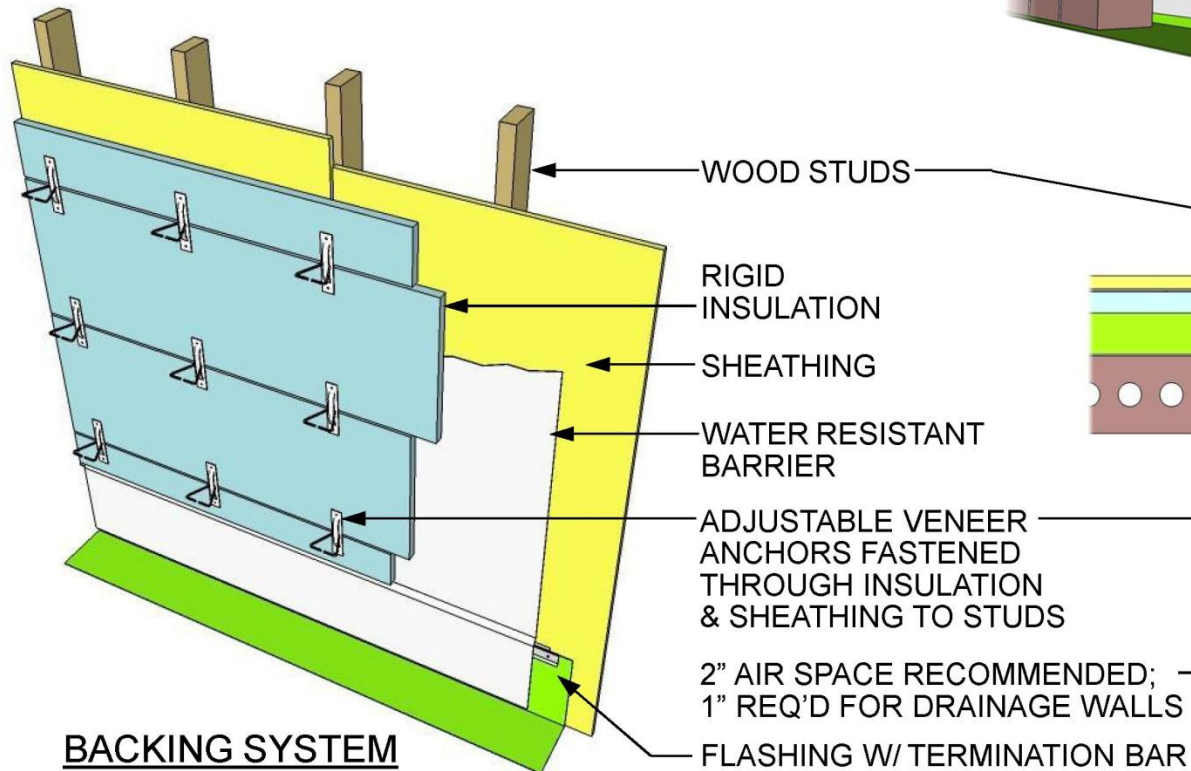
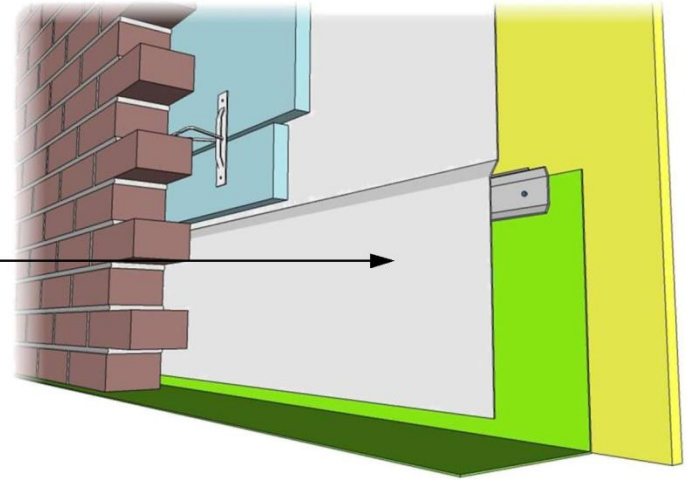
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WATER RESISTANT BARRIER (HOUSEWRAP) MUST BE USED IF SHEATHING IS NOT WATER RESISTANT AND JOINTS IN SHEATHING ARE NOT TAPED AND SEALED. LAP WATER RESISTANT BARRIER OVER TOP OF FLASHING



PLAN

BASE OF WALL DETAIL FLEX. FLASHING, TERM. BAR

DETAIL 01.050.0301

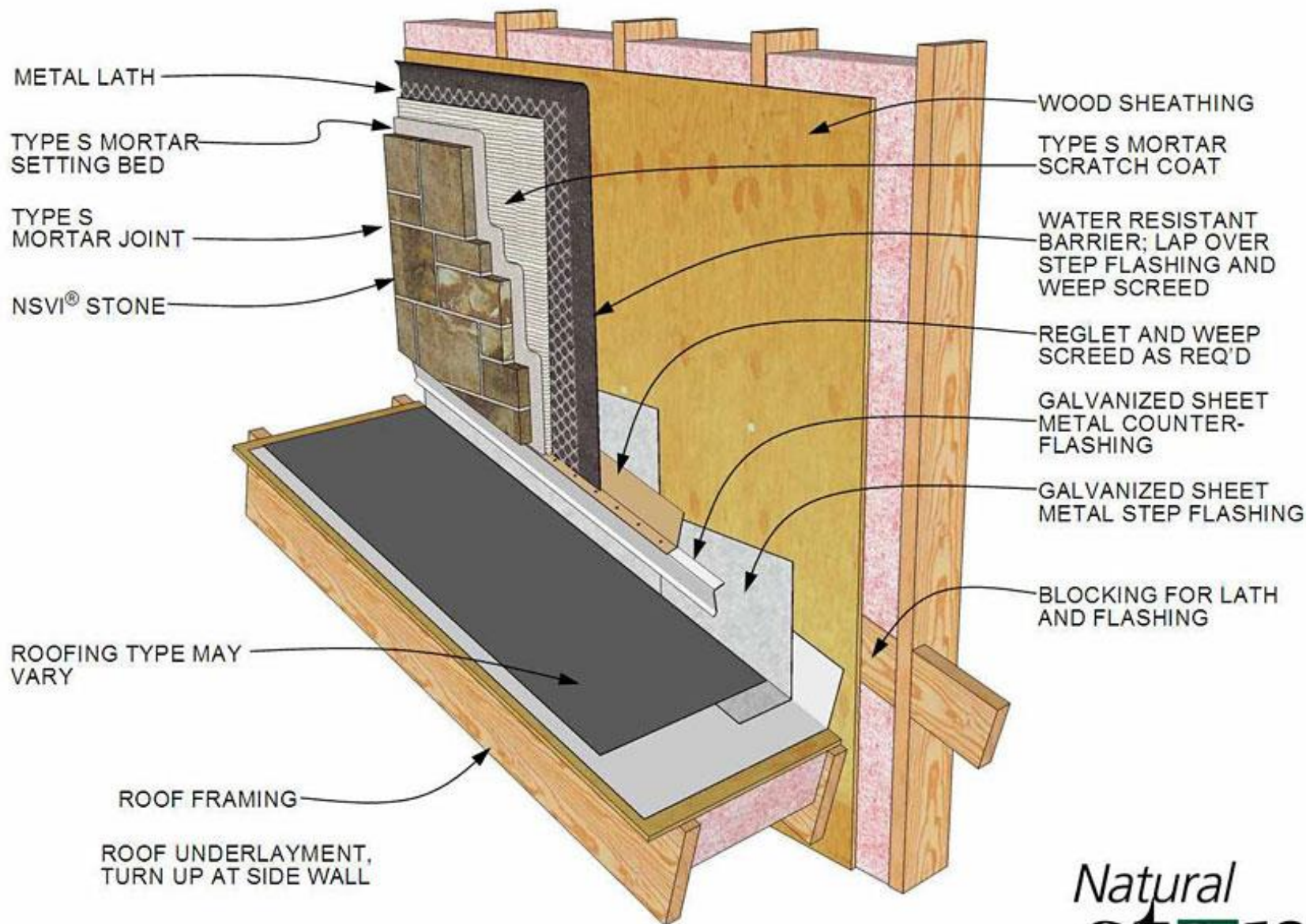
REV. 02/14/07

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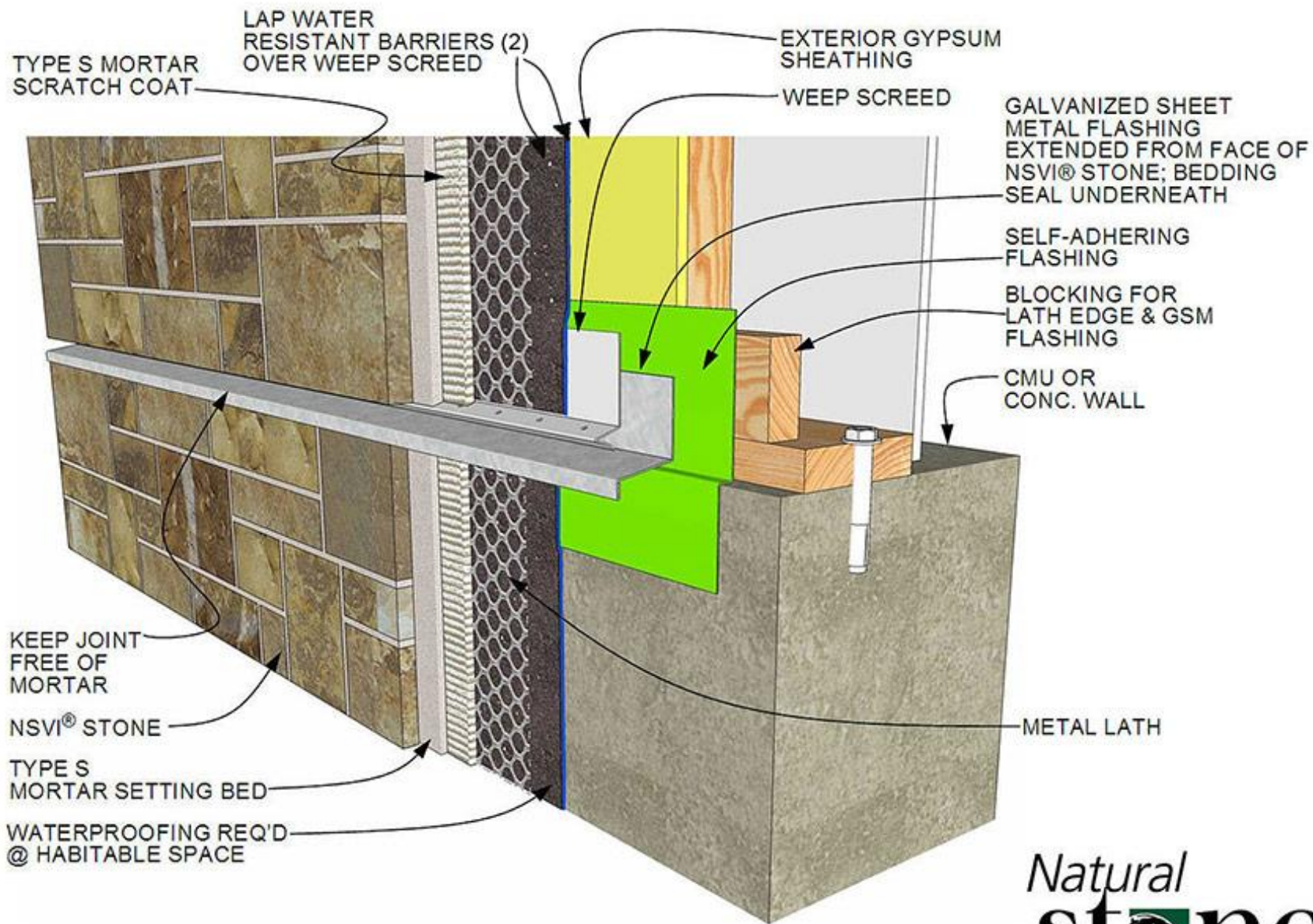


ROOF-WALL CONNECTION SIDE WALL DETAIL, OPTION 2

DETAIL NSVI.702

REV. 06/10/08

Natural
stone
 veneers
 INTERNATIONAL INC



EXTENDED BASE FLASHING

DETAIL NSVI.211 2L

REV. 04/24/08 2L

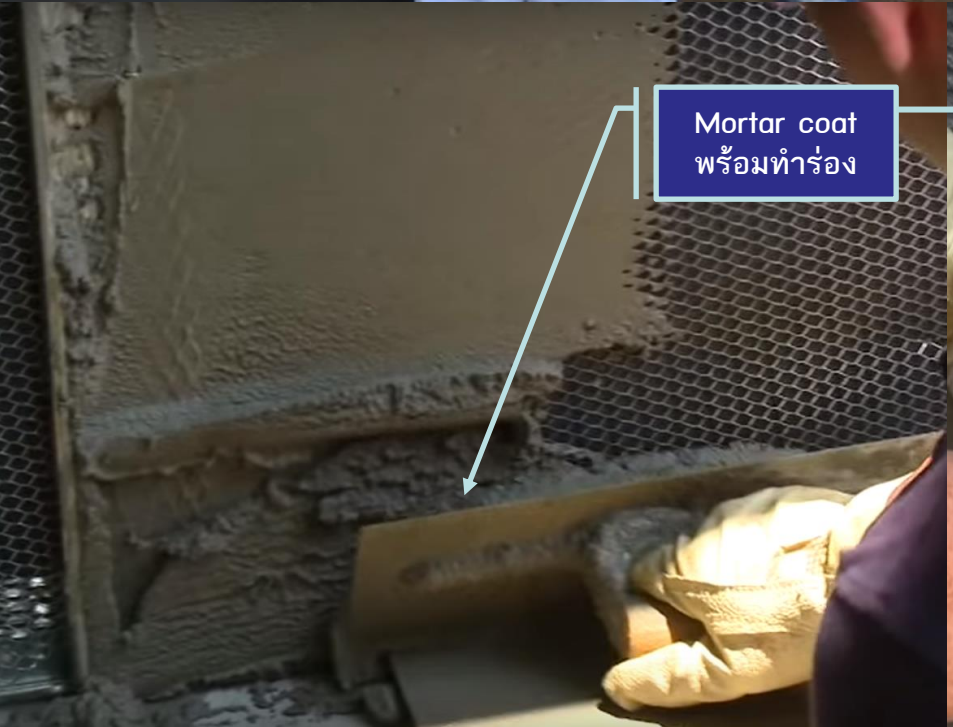
Natural
stone
veneers
INTERNATIONAL INC



Waterproof
membrane



Metal lath ยึดด้วย
screw



Mortar coat
พร้อมทำร่อง



ติดหินหรือกระเบื้อง
ด้วยปูนขาว